



TECHNICAL SUPPORT DOCUMENT

**Air Discharge Permit ADP 23-3588
Air Discharge Permit Application CL-3233**

Issued: July 6, 2023

Roadmaster, Inc.

SWCAA ID - 2684

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Southwest Clean Air Agency

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ABBREVIATIONS

List of Acronyms

ADP	Air Discharge Permit	NOV	Notice of Violation/
AP-42	Compilation of Emission Factors, AP-42, 5th Edition, Volume 1, Stationary Point and Area Sources – published by EPA	NSPS	New Source Performance Standard
		RCW	Revised Code of Washington
		SCC	Source Classification Code
		SDS	Safety Data Sheet
ASIL	Acceptable Source Impact Level	SQER	Small Quantity Emission Rate listed in WAC 173-460
BACT	Best available control technology		
CAM	Compliance Assurance Monitoring	Standard	Standard conditions at a temperature of 68°F (20°C) and a pressure of 29.92 in Hg (760 mm Hg)
CAS#	Chemical Abstracts Service registry number		
CFR	Code of Federal Regulations	SWCAA	Southwest Clean Air Agency
EPA	U.S. Environmental Protection Agency	T-BACT	Best Available Control Technology for toxic air pollutants
NESHAP	National Emission Standards for Hazardous Air Pollutants	WAC	Washington Administrative Code

List of Units and Measures

µg/m ³	Micrograms per cubic meter	ppmv	Parts per million by volume
µm	Micrometer (10 ⁻⁶ meter)	ppmvd	Parts per million by volume, dry
acfm	Actual cubic foot per minute	ppmw	Parts per million by weight
gr/dscf	Grain per dry standard cubic foot	tph	Ton per hour
MMBtu	Million British thermal unit	tpy	Tons per year
ppm	Parts per million		

List of Chemical Symbols, Formulas, and Pollutants

CO	Carbon monoxide	PM	Particulate Matter with an aerodynamic diameter 100 µm or less
CO ₂	Carbon dioxide		
CO _{2e}	Carbon dioxide equivalent	PM ₁₀	PM with an aerodynamic diameter 10 µm or less
HAP	Hazardous air pollutant listed pursuant to Section 112 of the Federal Clean Air Act	PM _{2.5}	PM with an aerodynamic diameter 2.5 µm or less
N ₂ O	Nitrous oxide	SO ₂	Sulfur dioxide
NH ₃	Ammonia	SO _x	Sulfur oxides
NO ₂	Nitrogen dioxide	TAP	Toxic air pollutant pursuant to Chapter 173-460 WAC
NO _x	Nitrogen oxides		
O ₂	Oxygen	VOC	Volatile organic compound
O ₃	Ozone		

Terms not otherwise defined have the meaning assigned to them in the referenced regulations or the dictionary definition, as appropriate.

1. FACILITY IDENTIFICATION

Applicant Name: Roadmaster, Inc.
Applicant Address: 6110 NE 127th Avenue, Vancouver, WA 98682

Facility Name: Roadmaster, Inc.
Facility Address: 6110 NE 127th Avenue, Vancouver, WA 98682

SWCAA Identification: 2684

Contact Person: Jason Barnes, Production Manager

Primary Process: Metal fabrication
SIC/NAICS Code: 3429: Fabricated Metal Products
336399: All other transportation equipment manufacturing

Facility Classification: Natural Minor

2. FACILITY DESCRIPTION

Roadmaster, Inc. (Roadmaster) manufactures suspension and tow assembly components for the RV and automotive market. The Vancouver facility converts raw metal stock (bar, plate, channel) into finished products.

3. CURRENT PERMITTING ACTION

This permitting action is in response to Air Discharge Permit application number CL-3233 (ADP Application CL-3233) dated May 4, 2023. Roadmaster, Inc. submitted ADP Application CL-3233 requesting approval of a metal parts manufacturing facility equipped with the following:

- (3) Laser cutting tables;
- (1) Plasma cutting table;
- (1) Hang line part washer;
- (1) Powder coating booth;
- (1) Hang line drying/curing oven;
- (1) Metal parts shot peening unit; and
- Multiple welding stations.

The current permitting action provides approval for a metal parts manufacturing facility as proposed in ADP Application CL-3233. This is the initial permitting action for this facility.

4. PROCESS DESCRIPTION

- 4.a Metal Fabrication/Welding (new). This facility converts raw metal stock (bar, plate, channel) into finished products. Raw stock is cut and shaped to specification using shears and laser/plasma cutting tables. Selected parts are cleaned in a wheelabrator unit. Small metal parts are welded into assemblies using wire welders and jigs. Welded assemblies are surface prepped and cleaned. Large sway bar products are processed through an induction forge area.

- 4.b Powder Coating (new). Most products manufactured at the facility are powder coated prior to shipment. Components to be powder coated are cleaned in a wash line and dried in a drying tunnel. After drying, parts are powdered coated in a semi-enclosed robotic spray booth. Coated parts are cured in a two-pass natural gas fired oven.

5. EQUIPMENT/ACTIVITY IDENTIFICATION

- 5.a Mazak Cutting Table (new). One CO₂ laser cutting table is used to cut metal plate into specified shapes. The cutting process is enclosed and vented to a dedicated dust collector.

Make/Model: Mazak / YB-L200 B 7m
 Dimensions: 5' W x 10' L

Dust Collector.

Make/Model: Zephyr Lazervac / LC 2442
 Rated Exhaust Flow: 1,500 acfm
 No. of Cartridges: 14
 Filter Media: MERV 15 (99% efficiency)
 Cleaning Method: Pulse jet
 Exhaust Stack: 10" dia, vertical at 4' above roof level

- 5.b Bystronic CO₂ Cutting Table (new). One CO₂ laser cutting table is used to cut metal plate into specified shapes. The cutting process is enclosed and vented to a dedicated dust collector.

Make/Model: Bystronic / Bystar 3015
 Dimensions: 5' W x 10' L

Dust Collector.

Make/Model: Zephyr Lazervac / LC 2442 x2
 Rated Exhaust Flow: 2,100 acfm
 No. of Cartridges: 28
 Filter Media: MERV 15 (99% efficiency)
 Cleaning Method: Pulse jet
 Exhaust Stack: 12" dia, vertical at 4' above roof level

- 5.c Bystronic Fiber Cutting Table (new). One fiber laser cutting table is used to cut metal plate into specified shapes. The cutting process is enclosed and vented to a dedicated dust collector.

Make/Model: Bystronic / Bystar 3015
 Dimensions: 5' W x 10' L

Dust Collector.

Make/Model: Camfil / GSXP6-3k
 Rated Exhaust Flow: 2,350 acfm
 No. of Cartridges: 6
 Filter Media: MERV 15 (99% efficiency)
 Cleaning Method: Pulse jet
 Exhaust Stack: 18" dia, vertical at 6' above roof level

- 5.d Messer Plasma Cutting Table (new). One plasma cutting table is used to cut metal plate into specified shapes. The cutting process is enclosed and vented to a dedicated dust collector.

Make/Model: Messer / Titan
 Dimensions: 12' W x 24' L

Dust Collector.

Make/Model: Donaldson Torit / DFT3-24
 Rated Exhaust Flow: 3,200 acfm
 No. of Cartridges: 12
 Filter Media MERV 15 (99% efficiency)
 Cleaning Method: Pulse jet
 Exhaust Stack: 20" dia, vertical at 5' above roof level

- 5.e Wheelabrator (new). One enclosed shot peening system is used to clean and surface prep small metal parts prior to welding and/or power coating. The blast system is vented to a dedicated dust collector.

Make/Model: Rosler / RHBE 20/25

Dust Collector.

Make/Model: Donaldson Torit / DFT3-24
 Rated Exhaust Flow: 3,200 acfm
 No. of Cartridges: 4
 Filter Media Spun polyester (99.8-99.9% efficiency)
 Cleaning Method: Pulse jet
 Exhaust Stack: 20" dia, vertical at 6' above ground level

- 5.f Welding Operations (new). Roadmaster welds small metal pieces into assemblies at (12) twelve work stations. All welding is performed using GMAW ER70S welding wire. The stations are exhausted to atmosphere through two powered ventilation systems. Each welding station is equipped with a particulate filter.

Exhaust System #1.

Rated Exhaust Flow: 6,000 acfm
 Exhaust Stack: 1' x 2', vertical at 3' above roof level
 Filter Media MERV 11 (>20% efficiency)

Exhaust System #2.

Rated Exhaust Flow: 6,000 acfm
 Exhaust Stack: 1.5' x 3', horizontal with deflection louvers (~50 deg upward) at ~4' above roof level
 Filter Media MERV 11 (>20% efficiency)

- 5.g Powder Coat Oven / Drying Tunnel (new). One natural gas fired hang line oven is used to dry/temper metal parts and cure applied powder coating. Drying/tempering is accomplished in one pass. Curing is accomplished in two passes. The unit is exhausted through a single stack.

Make / Model: System Manufacturing Co.
 Rated Exhaust Flow: 5,000 acfm
 Exhaust Stack: 18" dia, vertical at 4' above roof level

Oven Burner.

Make / Model: Ponder Burner Co.
 Rated Heat Input: 3.0 MMBtu/hr

Fuel: Natural gas
 Emissions: 100 ppmv NO_x / 50 ppmv CO – corrected to 3% O₂

- 5.h Wash Line (new). One enclosed, multi-station hang line part washing system. The unit uses warm water with cleaning additives to clean small metal parts. The unit is equipped with an integral natural gas fired water heater. The headspace of the unit is exhausted to ambient atmosphere through two exhaust stacks.

Make / Model: System Manufacturing Co.
 Rated Exhaust Flow: 2,600 acfm (total)
 Exhaust Stack: Stack #1 12" diameter stack, vertical at 4' above roof level
 Stack #2 12" diameter stack, vertical at 4' above roof level

Water Heater.

Make / Model: Unknown
 Rated Heat Input: 1.0 MMBtu/hr
 Fuel: Natural gas
 Exhaust Stack: 6" diameter stack, vertical at 4' above roof level

- 5.i Insignificant Emission Units. The following pieces of facility equipment have been determined to have insignificant emissions, and are not registered as emission units:

Powder Coat Booth (new). One semi-enclosed hang line booth is used to apply powder coating to metal components. The booth is vented to a dedicated dust collector and discharged inside the production building.

Make / Model: Rohner
 Dimensions: 104" H x 56" W x 22' L
 Rated Exhaust Flow: Recirculates to room air
 Filters: Primary – 12 cartridges
 Secondary – 5 HEPA filters
 Exhaust Stack: None - vents inside building

Special Project Powder Coat Booth (new). One three-sided coating booth is used to manually apply powder coating to metal components. Use is very limited.

Make / Model: Binks
 Dimensions: 97" H x 118" W x 14.5' L
 Rated Exhaust Flow: Unknown
 Filter Media: Paint Arrestor media
 Exhaust Stack: 24" diameter stack, vertical at 4' above roof level

Induction Furnaces (new). Roadmaster hot forges the ends of large sway bars using electric induction furnaces and hot presses. Raw bar stock is used in this process with no doping or additives. The furnaces and presses vent to the room.

Grinding stations (new). Roadmaster operates a handful of grinding stations in an area near the Wheelabrator. Metal components are inspected and minor grinding is performed to smooth rough spots and welds. The grinding stations are not ventilated.

Space Heaters (new). Roadmaster uses (5) small natural gas fired space heaters (Reznor) to warm air in the main workspace of the production building. The heaters hang from the ceiling and vent to ambient through independent exhaust stacks.

5.j Equipment/Activity Summary.

ID No.	Equipment/Activity	Control Equipment/Measure
1	Mazak Cutting Table (Zephyr Lazervac – 1,500 acfm)	Process Enclosure, High Efficiency Filtration
2	Bystronic CO ₂ Cutting Table (Zephyr Lazervac – 2,100 acfm)	Process Enclosure, High Efficiency Filtration
3	Bystronic Fiber Cutting Table (Camfil – 2,350 acfm)	Process Enclosure, High Efficiency Filtration
4	Messer Plasma Cutting Table (Donaldson Torit – 3,200 acfm)	Process Enclosure, High Efficiency Filtration
5	Wheelabrator (Donaldson Torit – 3,200 acfm)	Process Enclosure, High Efficiency Filtration
6	Welding Operations	Process Enclosure, Medium Efficiency Filtration
7	Powder Coat Oven / Drying Tunnel (System Manufacturing – 3.0 MMBtu/hr)	Low Sulfur Fuel (Natural Gas)
8	Wash Line (System Manufacturing – 1.0 MMBtu/hr)	Low Sulfur Fuel (Natural Gas)

6. EMISSIONS DETERMINATION

Emissions to the ambient atmosphere from the metal parts manufacturing facility proposed in ADP Application CL-3233 consist of nitrogen oxides (NO_x), carbon monoxide (CO), volatile organic compounds (VOC), particulate matter (PM) sulfur dioxide (SO₂), toxic air pollutants (TAPs), and hazardous air pollutants (HAPs).

Unless otherwise specified by SWCAA, actual emissions must be determined using the specified input parameter listed for each emission unit and the following hierarchy of methodologies:

- Continuous emissions monitoring system (CEMS) data;
- Source emissions test data (EPA reference method). When source emissions test data conflicts with CEMS data for the time period of a source test, source test data must be used;
- Source emissions test data (other test method); and
- Emission factors or methodology provided in this TSD.

- 6.a Wheelabrator (new). Potential emissions from shot peening operations are calculated based on rated exhaust flow of the associated dust collector, 8,760 hr/yr of operation, and an exhaust concentration of 0.005 gr/dscf. All PM is assumed to be PM_{2.5}. Annual emissions will be calculated based on actual hours of operation using the same methodology.

Source	Exhaust	Emission	Annual	PM/PM ₁₀ /PM _{2.5}		tpy
	Flow (cfm)	Concentration (gr/dscf)	Operation (hours)	lb/hr	lb/yr	
Donaldson Torit DF02-8	3,200	0.005	8,760	0.14	1,201	0.60

6.b Laser Cutting (existing). Potential emissions from laser cutting operations are calculated based on the following assumptions:

- (1) NO_x and ozone emission factors from "Secondary Hazards of High Power Laser Beam Welding" K. Schulmeister et. Al;
- (2) Estimated metal removal rate provided by applicant;
- (3) The highest estimated metal removal rate with all laser cutters in operation;
- (4) 5% of metal removed during cutting becomes fume ("Emissions of Fume, Nitrogen Oxides and Noise in Plasma Cutting of Stainless and Mild Steel" Bromeen B. et al March 1994);
- (5) The concentration of metal HAP in cutting generated fume (Ni, Mn, Cr) is directly proportional to the concentration of the metal HAP in the base metal;
- (6) 6.47% of total chromium emissions are hexavalent chromium ("Development of Emission Inventory for Metal Welding, Cutting and Spraying Operations" SCAQMD May 2000); and
- (7) A 99% control efficiency provided by process enclosure and cartridge collector (MERV 15).

Annual emissions will be calculated based on actual hours of operation using the same methodology.

Laser Cutting - Metal Removal Rate				
Metal Density =		7	grams/cm ³	Amount
Tool	Width (inches)	Depth (inches)	Cut Time (IPM)	Removed (lb/hr)
Mazak YB-L200 B 7m	0.015	0.25	70	3.98
Bystronic Bystar 3015 CO2	0.015	0.25	90	5.12
Bystronic Bystar 3015 Fiber	0.010	0.25	225	8.54
Total =				17.64

Laser Cutting - Emissions				
Mazak YB-L200 B 7m =	2,080.0	Hours per year		
Bystronic Bystar 3015 CO2 =	1,000.0	Hours per year		
Bystronic Bystar 3015 Fiber =	2,080.0	Hours per year		
Max Metal Removal Rate =	17.64	Pounds per hour		
Total Metal Removed =	31,159	Pounds per hour		
% of Metal Converted to Fume =	5%	Dry Cutting of Mild Steel - Bromeen et. al paper		
Maximum Ni Content =	0%	From Safety Data Sheet		
Maximum Mn Content =	1.2%	From Safety Data Sheet		
Maximum Cr Content =	0%	From Safety Data Sheet		
% of Total Cr Emitted as Cr ⁺⁶ =	6.47%	Worst-case scenario		
Particulate Control Efficiency =	99.0%	Estimated capture and control efficiency (MERV 15)		
	Uncontrolled Emission Factor (lb/hr/machine)	Max Controlled Emissions (lb/hr)	Max Annual Emissions (tpy)	Uncontrolled Emission Factor Source
NO _x	0.0070	0.021	0.018	0.81 mg/s - "Secondary Hazards of High Power Laser Beam Welding", K. Schulmeister et. Al
PM ₁₀ /PM _{2.5}		0.0088	0.0078	"Emissions of Fume, Nitrogen Oxides and Noise in Plasma Cutting of Stainless and Mild Steel" Bromeen B. et al March 1994
O ₃	0.0017	0.0050	0.0043	0.21 mg/s - "Secondary Hazards of High Power
			(lb/yr)	
Mn as Mn		1.1E-04	0.187	Fume * % Mn

- 6.c Messer Plasma Cutting Table (new). Potential emissions from plasma cutting table operation are calculated based on 1,000 hr/yr of operation, emission factors from "*Emissions of Fume, Nitrogen Oxides and Noise in Plasma Cutting of Stainless and Mild Steel*" Bromeen B. et al March 1994, and a control efficiency of 99%. All PM is assumed to be PM_{2.5}. Annual emissions will be calculated based on actual hours of operation using the same methodology.

Plasma Cutting Table				
Operation =	1,000	hours per year		
			Emissions	
Pollutant	Emission Factor		(lb/hr)	(tpy)
NO _x	10.16	g/min	1.34	0.67
PM/PM ₁₀ /PM _{2.5}	23.0	g/min (uncontrolled)		
	99.00%	control efficiency	0.030	0.015

- 6.d Metal Fabrication / Welding (existing). Potential emissions from secondary metal fabrication activities (drilling, grinding, etc.) in the shop are not expected to be significant. Potential emissions from welding are calculated based on maximum anticipated weld wire/rod usage, 20% control efficiency (MERV 11), and emission factors from EPA AP-42, Section 12.19 (1/95). Annual emissions will be calculated based on actual weld wire/rod consumption using the same methodology.

Welding Emissions									
Type	Throughput (lb/yr)	Emission Factors (lb/1,000 lb)							
		Cr	Cr(VI)	Co	Mn	Ni	Pb	PM ₁₀	PM _{2.5}
ER70S	30,000	0.001	0	0.001	0.318	0.001	0	5.2	5.2
Type	Emissions (lb/yr)								
		Cr	Cr(VI)	Co	Mn	Ni	Pb	PM ₁₀	PM _{2.5}
ER70S		0.0	0.0	0.0	9.54	0.0300	0.0	156.0	156.0
Uncontrolled Total =		0.030	0.0	0.030	9.54	0.0300	0.0	156.0	156.0
Filter Efficiency =	20%								
Controlled Total =		0.024	0.0	0.024	7.632	0.024	0.0	124.8	124.8

- 6.e Powder Coat Oven / Drying Tunnel (new). Potential emissions from oven operation are calculated based on a rated heat input of 3.0 MMBtu/hr, 8,760 hr/yr, and applicable emission factors. Emission factors for NO_x and CO correspond to 100 ppmv and 50 ppmv at 3% O₂, respectively. All other emission factors are taken from EPA AP-42 §1.4 "Natural Gas Combustion" (3/98). All PM is assumed to be PM_{2.5}. Annual emissions will be calculated based on actual fuel consumption using the same methodology unless new emission factors are developed through emission testing and approved by SWCAA.

Heat Input Rating =	3.000	MMBtu/hr			
Fuel Consumption =	26,280	MMBtu/yr			
Pollutant	Emission Factor (lb/MMBtu)	(lb/hr)	Emissions (lb/yr)	(tpy)	Emission Factor Source
NO _x	0.1214	0.36	3,190	1.60	Midco International
CO	0.0369	0.111	970	0.48	Midco International
VOC (combustion)	0.0054	0.016	142	0.071	AP-42 Sec. 1.4 (7/98)
VOC (curing)		0.057	500	0.250	5% powder wt
SO _x as SO ₂	5.88E-04	1.8E-03	15	0.0077	AP-42 Sec. 1.4 (7/98)
PM	0.0075	0.0224	196	0.098	AP-42 Sec. 1.4 (7/98)
PM ₁₀	0.0075	0.0224	196	0.098	AP-42 Sec. 1.4 (7/98)
PM _{2.5}	0.0075	0.0224	196	0.098	AP-42 Sec. 1.4 (7/98)
Benzene	2.06E-06	6.2E-06	5.4E-02	2.7E-05	AP-42 Sec. 1.4 (7/98)
Formaldehyde	7.35E-05	2.2E-04	1.9E+00	9.7E-04	AP-42 Sec. 1.4 (7/98)
CO ₂ e	117.1	351.3	3,077,335	1,539	40 CFR 98

- 6.f Wash Line Heater (new). Potential emissions from operation of the Wash Line heater are calculated based on a rated heat input of 1.0 MMBtu/hr, 8,760 hr/yr, and emission factors from EPA AP-42 Section 1.4 "Natural Gas Combustion" (3/98). All PM is assumed to be PM_{2.5}. Annual emissions will be calculated based on actual fuel consumption using the same methodology.

Heat Input Rating =	1.000	MMBtu/hr		
Fuel Consumption =	8,760	MMBtu/yr		
Pollutant	Emission Factor (lb/MMBtu)	(lb/hr)	Emissions (lb/yr)	(tpy)
NO _x	0.0981	0.10	859	0.43
CO	0.0824	0.082	722	0.36
VOC	0.0054	0.0054	47	0.024
SO _x as SO ₂	5.88E-04	5.9E-04	5	0.0026
PM (total)	0.0075	0.0075	65	0.033
PM ₁₀	0.0075	0.0075	65	0.033
PM _{2.5}	0.0075	0.0075	65	0.033
Benzene	2.06E-06	2.1E-06	1.8E-02	9.0E-06
Formaldehyde	7.35E-05	7.4E-05	6.4E-01	3.2E-04
CO ₂ e	117.1	117.1	1,025,778	513

- 6.g Emissions Summary/Facility-wide Potential to Emit. Facility-wide potential to emit as calculated in the sections above is summarized below.

<u>Pollutant</u>	<u>Potential Emissions (tpy)</u>	<u>Project Increase (tpy)</u>
NO _x	2.71	2.71
CO	0.85	0.85
VOC	0.34	0.34
SO ₂	0.010	0.010
Lead	0.0	0.0
PM	0.82	0.82
PM ₁₀	0.82	0.82
PM _{2.5}	0.82	0.82
TAP	0.0053	0.0053
HAP	0.0053	0.0053
CO ₂ e	2,052	2,052

Pollutant	CAS Number	Category	Facility-wide Emissions	Project Increase	WAC 173-460 SQER
			<u>lb/yr</u>	<u>lb/yr</u>	<u>lb/yr</u>
Benzene	71-43-2	HAP/TAP	0.072	0.072	20
Carbon Black	1333-86-4	HAP/TAP	0.045	0.045	1,750
Formaldehyde	50-00-0	HAP/TAP	2.58	2.58	20

Pollutant	CAS Number	Category	Facility-wide Emissions	Project Increase	WAC 173-460 SQER
Nickel	7440-02-0	HAP/TAP	0.024	0.024	0.62
			<u>lb/24-hr</u>	<u>lb/24-hr</u>	<u>lb/24-hr</u>
Chromium (III)	7440-47-3	HAP/TAP	6.6E-5	6.6E-5	0.37
Cobalt	7440-48-4	HAP/TAP	6.6E-5	6.6E-5	0.0074
Manganese	7439-96-5	HAP/TAP	0.0214	0.0214	0.022

7. REGULATIONS AND EMISSION STANDARDS

Regulations that have been used to evaluate the acceptability of the proposed facility and establish emission limits and control requirements include, but are not limited to, the regulations, codes, or requirements listed below.

- 7.a Title 40 Code of Federal Regulations Part 63 (40 CFR 63) Subpart XXXXXX "National Emission Standards for Hazardous Air Pollutants Area Source Standards for Nine Metal Fabrication and Finishing Source Categories" establishes standards and work practices for nine metal fabrication and finishing sources engaged in operations that use materials that contain or have the potential to emit chromium, lead, manganese, nickel, or cadmium. Affected source categories include electrical and electronic equipment finishing operations, fabricated metal products, fabricated plate work (boiler shops), fabricated structural metal manufacturing, heating equipment, except electric, industrial machinery and equipment finishing operations, iron and steel forging, primary metal products manufacturing, and valves and pipe fittings. This facility manufactures automotive parts and is not primarily engaged in any of the selected metal fabrication and finishing source categories so this regulation is not applicable.
- 7.b Revised Code of Washington (RCW) 70A.15.2040 empowers any activated air pollution control authority to prepare and develop a comprehensive plan or plans for the prevention, abatement and control of air pollution within its jurisdiction. An air pollution control authority may issue such orders as may be necessary to effectuate the purposes of the Washington Clean Air Act and enforce the same by all appropriate administrative and judicial proceedings subject to the rights of appeal as provided in Chapter 62, Laws of 1970 ex. sess.
- 7.c RCW 70A.15.2210 provides for the inclusion of conditions of operation as are reasonably necessary to assure the maintenance of compliance with the applicable ordinances, resolutions, rules and regulations when issuing an Air Discharge Permit for installation and establishment of an air contaminant source.
- 7.d Washington Administrative Code (WAC) 173-460 "Controls for New Sources of Toxic Air Pollutants" requires Best Available Control Technology for toxic air pollutants (T-BACT), identification and quantification of emissions of toxic air pollutants and demonstration of protection of human health and safety.
- 7.e WAC 173-476 "Ambient Air Quality Standards" establishes ambient air quality standards for PM₁₀, PM_{2.5}, lead, sulfur dioxide, nitrogen dioxide, ozone, and carbon monoxide in the ambient air, which shall not be exceeded.
- 7.f SWCAA 400-040 "General Standards for Maximum Emissions" requires all new and existing sources and emission units to meet certain performance standards with respect to Reasonably Available Control Technology (RACT), visible emissions, fallout, fugitive emissions, odors, emissions detrimental to persons or property, sulfur dioxide, concealment and masking, and fugitive dust.
- 7.g SWCAA 400-050 "Emission Standards for Combustion and Incineration Units" requires that all provisions of SWCAA 400-040 be met and that no person shall cause or permit the emission of particulate matter from any combustion or incineration unit in excess of 0.23 grams per dry cubic meter (0.1 grains per dry standard cubic foot) of exhaust gas at standard conditions.

- 7.h SWCAA 400-060 "Emission Standards for General Process Units" prohibits particulate matter emissions from all new and existing process units in excess of 0.1 grains per dry standard cubic foot of exhaust gas.
- 7.i SWCAA 400-109 "Air Discharge Permit Applications" requires that an Air Discharge Permit application be submitted for all new installations, modifications, changes, or alterations to process and emission control equipment consistent with the definition of "new source". Sources wishing to modify existing permit terms may submit an Air Discharge Permit application to request such changes. An Air Discharge Permit must be issued, or written confirmation of exempt status must be received, before beginning any actual construction, or implementing any other modification, change, or alteration of existing equipment, processes, or permits.
- 7.j SWCAA 400-110 "New Source Review" requires that SWCAA issue an Air Discharge Permit in response to an Air Discharge Permit application prior to establishment of the new source, emission unit, or modification.
- 7.k SWCAA 400-111 "Requirements for Sources in a Maintenance Plan Area" requires that no approval to construct or alter an air contaminant source shall be granted unless it is evidenced that:
- (1) The equipment or technology is designed and will be installed to operate without causing a violation of the applicable emission standards;
 - (2) Emissions will be minimized to the extent that the new source will not exceed emission levels or other requirements provided in the maintenance plan;
 - (3) Best Available Control Technology will be employed for all air contaminants to be emitted by the proposed equipment;
 - (4) The proposed equipment will not cause any ambient air quality standard to be exceeded; and
 - (5) If the proposed equipment or facility will emit any toxic air pollutant regulated under WAC 173-460, the proposed equipment and control measures will meet all the requirements of that Chapter.

8. RACT/BACT/BART/LAER/PSD/CAM DETERMINATIONS

The proposed equipment and control systems incorporate Best Available Control Technology (BACT) for the types and amounts of air contaminants emitted by the processes as described below:

New BACT Determinations

- 8.a BACT Determination – Cutting Tables. The proposed use of process enclosure, high efficiency particulate filtration, and vertical dispersion has been determined to meet the requirements of BACT for PM emissions from cutting table operations at this facility.

The quantity of potential NO_x and O₃ emissions are relatively small and there is no cost-effective means of minimizing the estimated level of emissions. Therefore, the proposed use of vertical dispersion with no add-on controls has been determined to meet the requirements of BACT for NO_x and O₃ emissions from cutting table operations at this facility.

- 8.b BACT Determination – Shot Peening. The proposed use of process enclosure, high efficiency particulate filtration, and vertical dispersion has been determined to meet the requirements of BACT for shot peening operations at this facility.
- 8.c BACT Determination – Welding. The proposed use of building enclosure, particulate filtration, and vertical dispersion has been determined to meet the requirements of BACT for welding operations at this facility.
- 8.d BACT Determination – Powder Coat Booth. The proposed use of booth enclosure and discharge inside the building envelope has been determined to meet the requirements of BACT for powder coating operations at this facility.

- 8.e BACT Determination – Powder Coat Oven / Drying Tunnel. The proposed use of low sulfur fuel (natural gas) and proper combustion controls has been determined to meet the requirements of BACT for powder coat curing and part drying at this facility.
- 8.f BACT Determination – Wash Line Heater. The proposed use of low sulfur fuel (natural gas) and proper combustion controls has been determined to meet the requirements of BACT for the wash water heater at this facility.

Other Determinations

- 8.g Prevention of Significant Deterioration (PSD) Applicability Determination. The potential to emit of this facility is less than applicable PSD applicability thresholds. Likewise, this permitting action will not result in a potential increase in emissions equal to or greater than the PSD thresholds. Therefore, PSD review is not applicable to this action.
- 8.h Compliance Assurance Monitoring (CAM) Applicability Determination. CAM is not applicable to any emission unit at this facility because it is not a major source and is not required to obtain a Part 70 permit.

9. AMBIENT IMPACT ANALYSIS

- 9.a TAP Small Quantity Review. The incremental increases in TAP emissions associated with this permitting action are quantified in Section 6 of this Technical Support Document. All incremental increases in individual TAP emissions are less than the applicable small quantity emission rates (SQER) identified in WAC 173-460.

Conclusions

- 9.b Operation of a metal parts manufacturing facility, as proposed in ADP Application CL-3233, will not cause the ambient air quality requirements of Title 40 Code of Federal Regulations (CFR) Part 50 "National Primary and Secondary Ambient Air Quality Standards" to be violated.
- 9.c Operation of a metal parts manufacturing facility, as proposed in ADP Application CL-3233, will not cause the requirements of WAC 173-460 "Controls for New Sources of Toxic Air Pollutants" or WAC 173-476 "Ambient Air Quality Standards" to be violated.
- 9.d Operation of a metal parts manufacturing facility, as proposed in ADP Application CL-3233, will not cause a violation of emission standards for sources as established under SWCAA General Regulations Sections 400-040 "General Standards for Maximum Emissions," 400-050 "Emission Standards for Combustion and Incineration Units," and 400-060 "Emission Standards for General Process Units."

10. DISCUSSION OF APPROVAL CONDITIONS

SWCAA has made a determination to issue ADP 23-3588 in response to ADP Application CL-3233. ADP 23-3588 contains approval requirements deemed necessary to assure compliance with applicable regulations and emission standards as discussed below.

- 10.a General Basis. Permit requirements for equipment affected by this permitting action incorporate the operating schemes proposed by the applicant in ADP Application CL-3233. Permit requirements established by this action are intended to implement BACT, minimize emissions, and assure compliance with applicable requirements on a continuous basis. Emission limits for approved equipment are based on the maximum potential emissions calculated in Section 6 of this Technical Support Document.

- 10.b Monitoring and Recordkeeping Requirements. ADP 23-3588 establishes monitoring and recordkeeping requirements sufficient to document compliance with applicable emission limits, ensure proper operation of approved equipment and provide for compliance with generally applicable requirements. Specific monitoring requirements are established for powder coat consumption, fuel consumption, hours of operation and weld wire consumption.
- 10.c Reporting Requirements. ADP 23-3588 establishes general reporting requirements for annual air emissions, upset conditions and excess emissions. Specific reporting requirements are established for powder coat consumption, fuel consumption, hours of operation and weld wire consumption. Reports are to be submitted on an annual basis.
- 10.d Cutting Tables. All of the cutting tables have a downdraft design with emissions vented to dedicated dust collectors. The laser cutting tables are also equipped with enclosures around the cutting area itself. Filter cartridges in the dust collectors are high efficiency (MERV 15). Roadmaster only uses A36 steel plate. Based on industry chemical composition data, A36 does not contain appreciable amounts of chromium or nickel. Higher levels of filtration and/or additional modelling would be necessary if Roadmaster begins processing steel types with higher chrome or nickel content.
- 10.e Welding Operations. Individual welding stations at this facility are vented to one of two central exhaust systems. The exhaust systems will be equipped with medium efficiency particulate filters (MERV 11) to control welding fume emissions. Combined with the cutting table dust collectors, the use of particulate filters maintains facility-wide manganese emissions at a level just below the applicable SQER. Manganese emissions would exceed the SQER without filtration, and ASIL compliance would require a similar level of filtration to reduce uncontrolled emissions.

11. START-UP AND SHUTDOWN/ALTERNATIVE OPERATING SCENARIOS/POLLUTION PREVENTION

- 11.a Start-up and Shutdown Provisions. Pursuant to SWCAA 400-081 "Start-up and Shutdown", technology based emission standards and control technology determinations shall take into consideration the physical and operational ability of a source to comply with the applicable standards during start-up or shutdown. Where it is determined that a source is not capable of achieving continuous compliance with an emission standard during start-up or shutdown, SWCAA shall include appropriate emission limitations, operating parameters, or other criteria to regulate performance of the source during start-up or shutdown.

The applicant did not identify any start-up and shutdown periods during which affected equipment is not capable of achieving continuous compliance with applicable technology determinations or approval conditions. To SWCAA's knowledge, this facility can comply with all applicable standards during startup and shutdown.

- 11.b Alternate Operating Scenarios. SWCAA conducted a review of alternate operating scenarios applicable to equipment affected by this permitting action. The permittee did not propose or identify any applicable alternate operating scenarios. Therefore, none were included in the permit requirements.
- 11.c Pollution Prevention Measures. SWCAA conducted a review of possible pollution prevention measures for the facility. No pollution prevention measures were identified by either the permittee or SWCAA separate or in addition to those measures required under BACT considerations. Therefore, none were included in the permit requirements.

12. EMISSION MONITORING AND TESTING

There are no formal emission monitoring or testing requirements for this facility.

13. FACILITY HISTORY

- 13.a Previous Permitting Actions. SWCAA has not previously issued any Permits for this facility.
- 13.b Compliance History. A search of source records on file at SWCAA identified the following compliance issues during the past five (5) years:

<u>Date</u>	<u>NOV Number</u>	<u>Violation</u>
4/14/2023	10789	Installation and operation of regulated equipment without obtaining an Air Discharge Permit.

14. PUBLIC INVOLVEMENT OPPORTUNITY

- 14.a Public Notice for ADP Application CL-3233. Public notice for ADP Application CL-3233 was published on the SWCAA internet website for a minimum of (15) days beginning on May 5, 2023.
- 14.b Public/Applicant Comment for ADP Application CL-3233. SWCAA did not receive specific comments, a comment period request or any other inquiry from the public regarding this ADP application. Therefore no public comment period was provided for this permitting action.
- 14.c State Environmental Policy Act. The City of Vancouver issued a SEPA Determination of Nonsignificance (DNS) for development of the industrial park in which this facility is located on February 27, 2007. Operations at the facility subsequent to approval of the equipment proposed in ADP Application CL-3233 will be consistent with the scope of operations reviewed in the DNS. Therefore, a separate review has not been conducted for this permitting action.